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I, JULIE BILLINGSLEY, TEAM LEADER EXAMINATION SUPPORT AND SALES hereby certify that annexed is a true copy of the Provisional specification in connection with Application No. 2004900082 for a patent by RICHARD JOHN BARRINGTON and RAYMOND LEONARD BUTLER as filed on 07 January 2004.

COMMONWEALTH OF AUSTRALIA
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WITNESS my hand this
Seventh day of April 2004

J. Billingsley

JULIE BILLINGSLEY
TEAM LEADER EXAMINATION
SUPPORT AND SALES

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PROVISONAL SPECIFICATION FOR

"FIRE PROTECTION SPRINKLER"

THE PRESENT INVENTION RELATES TO A FIRE PROTECTION DEVICE WHICH WHEN CONNECTED TO A PRESSURISED LIQUID SUPPLY, PRODUCES MULTIPLE CIRCULAR PATTERNS WHICH FORM A BARRIER BETWEEN A SURFACE AND A FIRE SOURCE. THE DEVICE ALSO DIRECTS PART OF THE FLOW OF LIQUID TOWARDS THE SURFACE TO DOUSE IT AND FURTHER PROTECT IT FROM THE FIRE SOURCE.

THE DEVICE CONSISTS OF A LIQUID INLET AT 90 DEGREES TO A ROTATING HEAD,THE ROTATING HEAD HAVING TWO OPPOSING PIPES WITH THE ENDS OF SAID PIPES BENT IN SUCH A WAY THAT LIQUID EXITING THESE ENDS UNDER PRESSURE ROTATES THE HEAD FLINGING THE LIQUID OUT IN A CIRCULAR PATTERN. ONE OF THE TWO OPPOSING PIPES ALLOWS THE LIQUID TO EXIT PARALLEL TO THE SURFACE AND THE OTHER OPPOSING PIPE DIRECTS LIQUID ON TO THE SURFACE. EACH OPPOSING PIPE HAS ORIFICES PLACED ALONG IT TO DIRECT LIQUID TO AREAS NOT COVERED BY THE LIQUID EXITING THE PIPE ENDS.

FOR MANY YEARS SPRINKLERS WHICH WERE USED TO DOUSE STRUCTURES AND BUILDINGS AS A MEANS OF PROTECTING THEM FROM FIRE HAVE BEEN LIMITED IN THEIR PERFORMANCE BECAUSE THEY HAVE ESSENTIALLY BEEN DESIGNED FOR USE IN AGRICULTURE OR THE LIKE AND TEND TO BE INEFFECTIVE IN MANY FIRE FIGHTING APPLICATIONS.

IT IS, ACCORDINGLY, THE OBJECT OF THE PRESENT INVENTION TYO SIGNIFICANTLY INCREASE TYHE EFFICIENCY OF A FIRE FIGHTING SPRINKLER BY HAVING THE SPRINKLER PRODUCE A HEAT REDUCING,FIRE EXTINGUISHING BARRIER, PARALLEL TO BUT NOT IN CONTACT WITH THE SURFACE TO WHICH THE SPRINKLER IS ATTACHED. THE SPRINKLER WILL ALSO DIRECT A FLOW OF LIQUID ONTO THE SURFACE AS A SECONDARY SOURCE OF LIQUID PROTECTION AGAINST HEAT, FLAME AND BURNING MATERIAL. NUMEROUS SPRINKLERS MAY BE POSITIONED ON, AROUND OR IN A BUILDING OR STRUCTURE AT INTERVALS WHICH ALLOW AN OVERLAP OF THE LIQUID BEING EXPELLED FROM THE SPRINKLERS TO FORM AN UNBROKEN BARRIER OF LIQUID WHERE NECESSARY.

THE PRESENT INVENTION ALLOWS FOR THE USE OF WATER, WATER MIXED WITH FIRE RETARDANT CHEMICAL OR LIQUID FIRE RETARDANT CHEMICAL IN ITS OPERATION.

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ONE EMBODIMENT OF THE PRESENT INVENTION WILL NOW BE DESCRIBED WITH REFRENCE TO THE ACCOMPANYING DRAWINGS IN WHICH **FIG 1.** IS A ONE DIMENTIONAL SIDE VIEW OF THE PRESENT INVENTION

FIG 2. IS A ONE DIMENTIONAL TOP VIEW OF A BUILDING OR STRUCTURE IN WHICH NUMEROUS SPRINKLERS FORM A LIQUID PATTERN WHICH OVERLAPS TO FORM A CONTINIOUS PROTECTIVE BARRIER AGAINST HEAT FLAME AND BURNING MATERIAL.

FIG 3. IS A ONE DIMENTIONAL FRONT VIEW OF THE PRESENT INVENTION SHOWING APPROXIMATE ORIFICE POSITIONING AND LIQUID FLOW DIRECTIONS

ACCORDING TO **FIG 1.** THE EXAMPLE SHOWN IS A SIDE VIEW OF THE SPRINKLER WHEN ATTACHED TO A BUILDING SHOWING THE TRAJECTORY OF LIQUID EXITING THE SPRINKLER PIPES WHILE ROTATING. IT SHOWS WATER FLOW PATHS FOR BOTH PIPES "A" AND "B" IN VERTICAL UP AND DOWN POSITIONS.

WITH REFERENCE TO **FIG 2.** IT CAN BE SEEN THAT WHEN MULTIPLE SPRINKLERS ARE USED AROUND A BUILDING OR STRUCTURE AND PLACED CLOSE ENOUGH TO ONE ANOTHER FOR THE LIQUID FLOWS TO OVERLAP, A CONTINUOUS LIQUID BARRIER IS FORMED. fOR THE LPURPOSE OF EASE OF UNDERSTANDING, THE SPRINKLERS IN **FIG 2.** HAVE BEEN OFFSET TO SHOW THE OVERLAP OF LIQUID MORE GRAPHICALLY. IT IS POSSIBLE TO POSITION SPRINKLERS SO THEY ARE OFFSET OR NOT OFFSET BUT STILL MAINTING ADEQUATE EFFICIENCY EITHER WAY.

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WITH REFERENCE TO **FIG 3.** IT CAN BE SEEN THAT THE TWO PIPES ATTACHED TO THE ROTATING HEAD ARE DESIGNED SO THAT THE PRESSURISED LIQUID EXITING THE PIPE ENDS WILL FORCE THE PIPES TO ROTATE AROUND THE BASE. THE LIQUID EXITING THE PIPE ENDS WILL BE DIRECTED PARALLEL TO THE SURFACE TO WHICH THE SPRINKLER IS ATTACHED IN THE CASE OF PIPE "A" AND ONTO THE SURFACE IN THE CASE OF PIPE "B" LIQUID EXITING THE SMALL ORIFICES ALONG THE LENGTH OF PIPE"A" WILL HELP ROTATE THE PIPES AND ENHANCE THE FORMATION OF THE PROTECTIVE LIQUID BARRIER. THE LIQUID EXITING THE SMALL ORIFICES ALONG THE LENGTH OF PIPE "B" ARE DIRECTED AT THE SURFACE TO WHICH THE SPRINKLER IS ATTACHED AND ENHANCE THE DOUSING OF THIS SURFACE.

RICHARD JOHN BARRINGTON .....

RAYMOND LEONARD BUTLER .....

FIG - 1

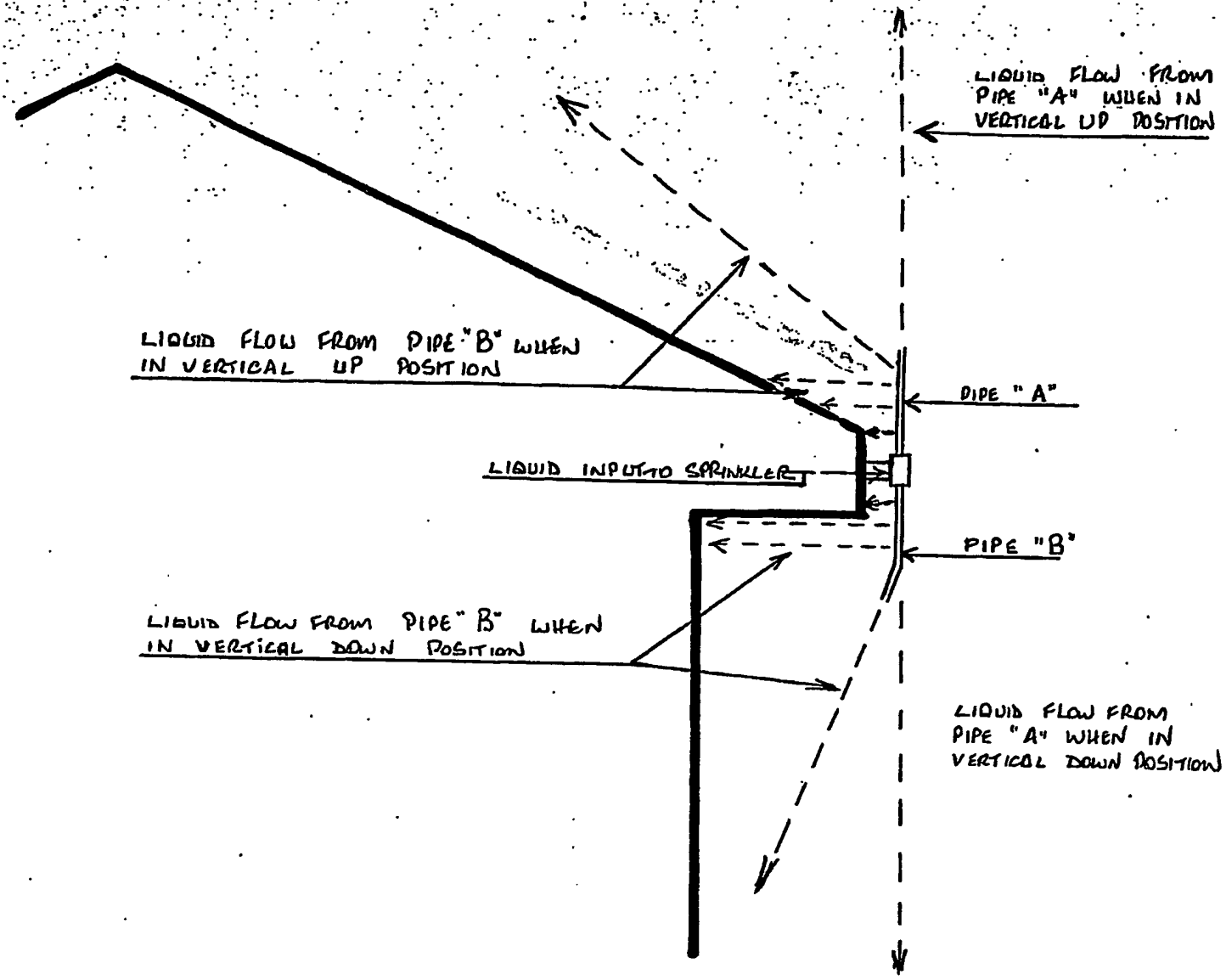

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FIG. 2

PROVISIONAL SPECIFICATION FOR FIRE PROTECTION SPRINKLER"

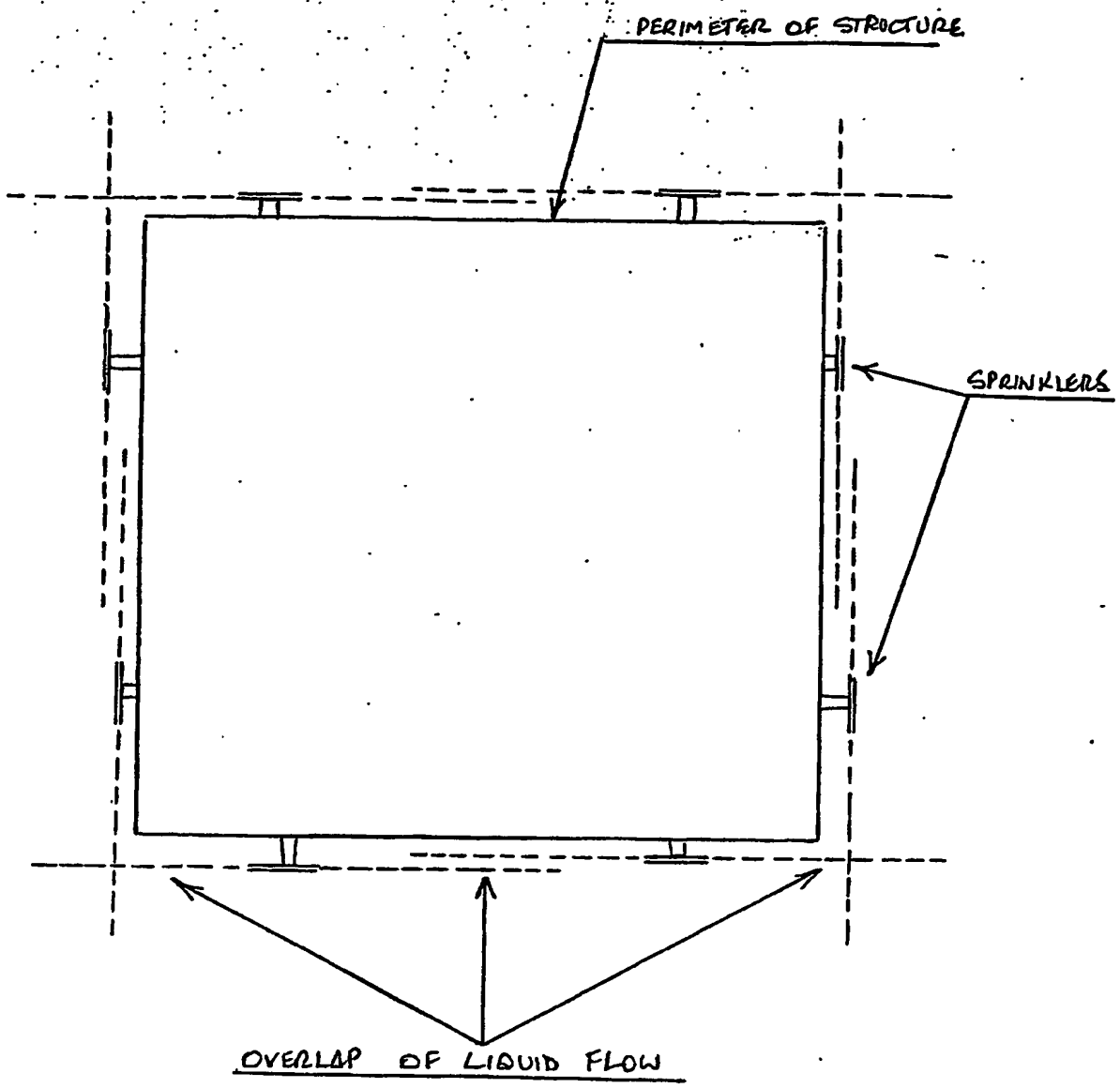

FIG. 3

PROVISIONAL SPECIFICATION FOR
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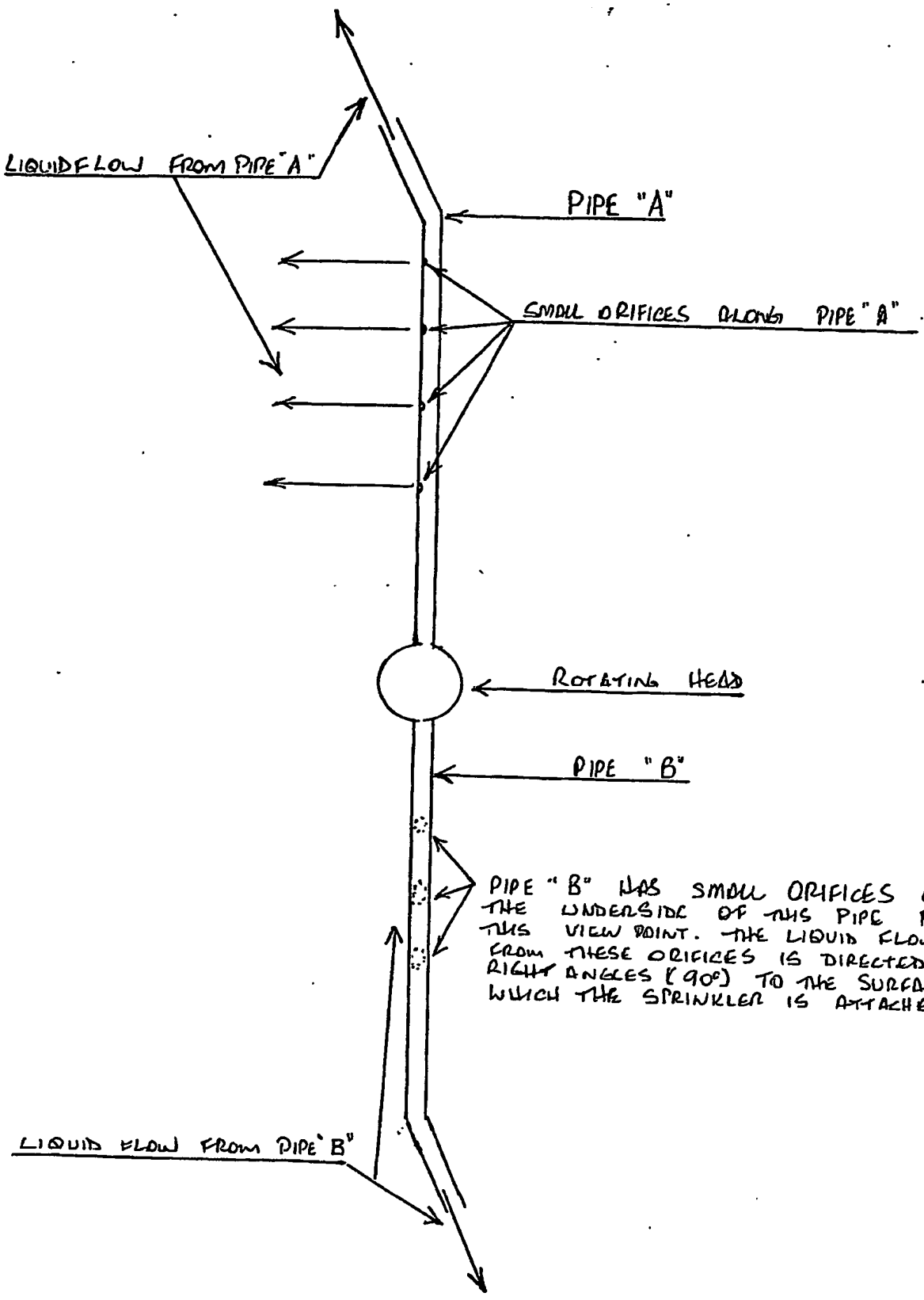

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